HENSHALLS' WAY

a tribute to

ERNIE & GLADYS
HENSHALL

who touched many lives.

Ernie and Gladys Henshall

with their display of braids at Upton Library, 1987

This booklet has been compiled as a lasting reminder of two very special people who shared their knowledge and enthusiasm with many, of all ages and experience. It is not a definitive biography, but a mixture of fond memories and published articles and papers. Inevitably there are episodes that are repeated. I prefer not to edit here.

It is my hope that in reading this, seeing the images and diagrams, that the reader too may have personal recollections relived, and be touched by these gifts that stay in our midst, now that Gladys and Ernie are no longer here in person.

Their ashes are in the orchard, the green burial ground, at Westhope, Craven Arms, Shropshire, a place of peace and beauty.

A flowering cherry tree has been planted in Nantwich to commemorate Gladys for tending the American airman's grave for over 50 years, and, close by, the road has been named Henshalls' Way. A fitting title for this too.

Jennie Parry.

GLADYS HENSHALL

1915-2000

Her life was but a weaving through many threads, and many of us were saddened to learn of her death in June.

Gladys was a founder member of The Braid Society, along with her husband, Ernie (our Vice- President), and always supported our exhibitions and events when health permitted. They were also members of both Merseyside and Cheshire Guilds of Weavers, Spinner and Dyers. Through these outlets, she and Ernie spent many happy hours visiting other associations - demonstrating and sharing their skills with others, particularly children. "They are our future members".

It was while she was studying for her Bradford Certificate that she met Ernie, who helped her to attain her aim in textiles, and carried off her heart. They shared 20 years of married life, caring for each other, and exploring techniques and new equipment in braidmaking together, making many journeys of discovery.

In her younger days Gladys was Brown Owl for 20 years to a local Brownie Pack, and was always pleased to be recognised by former 'brownies'. In 1999, Gladys received the John and Ada Dutton Award for outstanding service to others. For 55 years she had tended the grave of a US pilot on the banks of the River Weaver at Nantwich. He died in 1944, when he crashed steering his plane away from the town, preventing deaths and injuries to the residents.

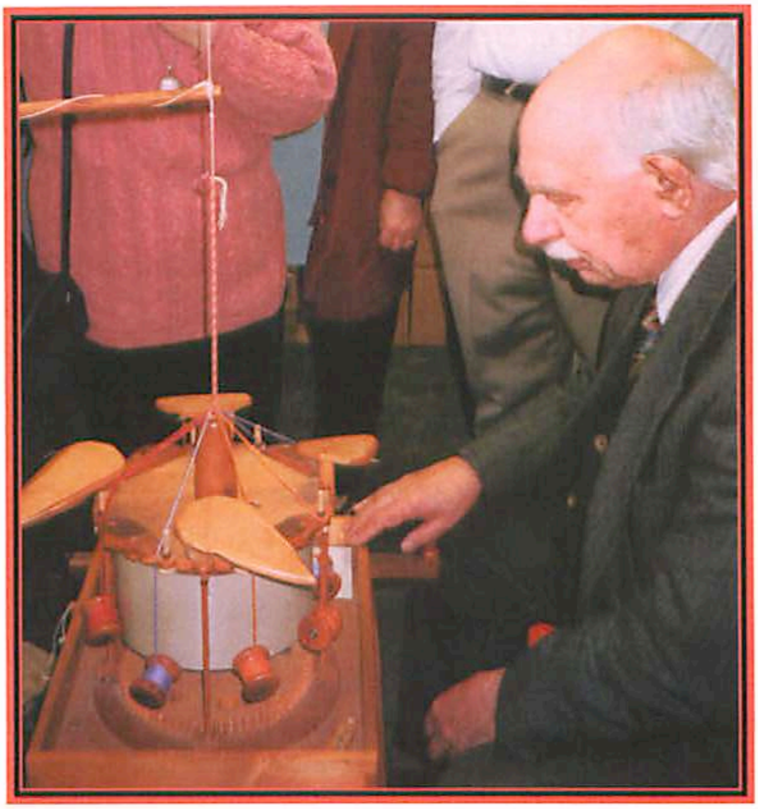
We have all shared the gold and silver in the pattern as those who had a warm welcome and a cup of tea know, when calling on a mission, or just passing through.

The loom is silent.

Tribute written & prepared by Jean Thornton & Jennie Parry, with love & thanks for a dear friend.

ERNEST HENSHALL

Died 4 November 2001, aged 89 years.



Our sorrow must be lightened by the very happy memories we have of this extraordinary man, and the manner in which he, and his dear wife Gladys (who died in 2000) shared their knowledge and enthusiasm with us. Long time members of Merseyside Guild, and founder members of The Braid Society (Ernie was Vice President since 1996), they both loved to be there in the midst, explaining, teaching everyone, whatever age. Ernie was a tremendous inventor of equipment, always preferring to create a useful device for any task than use his fingers, and, as he got older, these got bigger and bigger! His braid making equipment is housed at Ernie's Enterprises, his own museum which opened in 1995 at Westhope College. His unique methodology for understanding the bobbin movements (he called them 'perigraphs') were all recorded immaculately in his bold hand, and were the subject of much discussion with Noémi Speiser with whom he corresponded for many years. Whatever new ideas came to him, he would always want to share them with everyone, and he was a regular contributor to the Journal over the years.

All this began in his retirement, and followed earlier episodes of making his own telescopes (including grinding the lenses), much radio work, making a variety of musical instruments – violins, oboes, flutes, and clarinets.

He was a truly unique special man who saw good in all he met, and firm in his faith.

We are all the richer people for knowing him.

Celia Elliott-Minty, & Jennie Parry
Merseyside Guild of Weavers, and The Braid Society.
Written for, and published in, the Journal of Weavers, Spinners and Dyers, March 2002

ONE MAN'S JOURNEY
Ernie Henshall, maker and innovator in conversation with Jennie Parry

This was first published in Strands, the Braid Society Journal, issue 2 in 1995

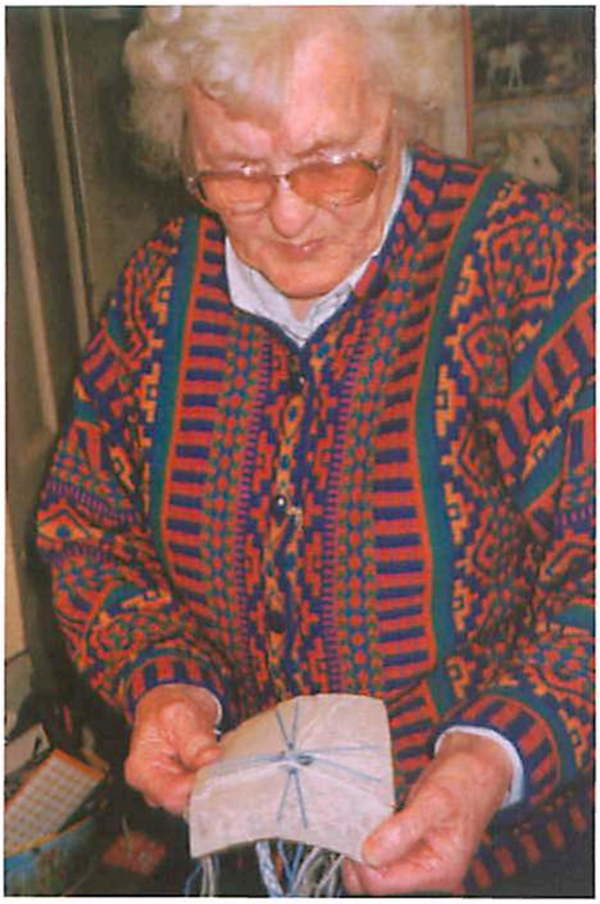
My first encounter with Ernie and Gladys was at the Association Summer School at Loughborough in 1989 whilst on a ten day course with Rodrick Owen. In one corner, over a period of days, more and more pieces of ingenious equipment were assembles, and set up. To everyone's delight, Ernie was always so willing to stop whatever he was up to, and would explain the intricacies as he demonstrated who each machine worked. Word spread, and we had a s stream of visitors to our room, both tutors and students alike, and, if Gladys hadn't come to collect him at mealtimes, he would have been working non-stop. Always puzzling over imponderables, applying logic and abstract algebra to the problems, it was obvious then and still is today, that here is a remarkable man, enjoying retirement to the full, passionate about braidmaking, and most anxious to share his discoveries. Members who attended the Inaugural meeting of The Braid Society at Ayres Street will remember how promptly a small plaiting stand emerged from a small zip-up hold all, and Ernie set everything off with a flourish (only remembering to take his coat off later). It has therefore been a real delight for me to visit them both, to photograph the equipment and how it is used, and to record an interview for this journal.

JP: Has making things run in your family? Was your father a skilled man?
EH: He trained at Crewe Railway Works as a boiler maker and plater, and never lacked a job after he had helped the chief engineer by repairing his motor car frame. I did my apprenticeship there but things were different then. I remember reading these few lines stamped out on tin plate there:

By little and by little, success is often gained
For thrifty habits formed in youth
Are oft through life maintained.

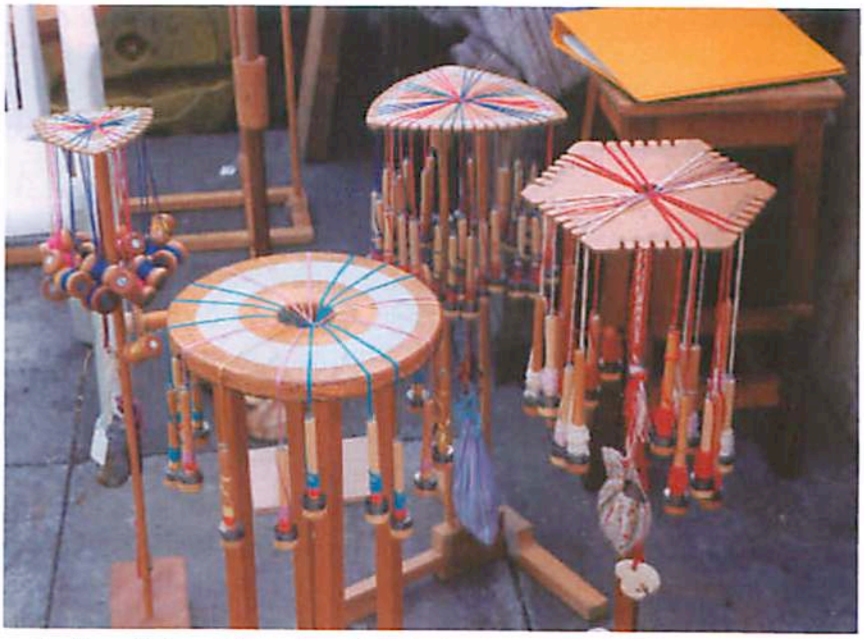
JP: This must have a difficult time to get a job. What came next for you?
EH: For some years I had a cycle shop, charged batteries and mended radios. At that time, just before the war, wireless operators could earn £100 a month instead of £3 10s. I was fortunate, my father sent me to college at Colwyn Bay to work for my BMG certificate, but I really struggled with morse code, sticking at sixteen words a minute, but needed to reach twenty. You don't always realise it, but many of these disappointments are blessings in disguise. Later, many of my friends in that class were killed during the war. I was not wanting an armaments job. I'd been brought up different to that, but the first job that the Labour Exchange sent me to was wiring up bomb panels. It was at this time that I designed a cable cutting bench, as an easier and less wasteful way of teaching the apprentices. I showed the plans to the foreman, and heard no more about it, until, one day, all the long boards were dismantled and a long bench appeared, detail by detail the one I had drawn out.

JP: How did you feel about this? Were you hurt or annoyed not to be given the credit?
EH: No, but it gave me confidence, and was another blessing in disguise. I got very bad bronchitis



Gladys with the initial crumpled card

Ernie with his 'mental meanderings'



A selection of slotted boards and maru dai in Manchester, and my father spoke to the Trade Union representative, and I got transferred to Rolls Royce and was there for ten years, but the fumes were very bad. After being blitzed there, I was transferred to the tool room, and was among some very skilled workers, making hobs and broaches, and it was here that I learned the gearing knowledge that was to be so helpful when making the Naiki Dai.

JP: Tell me about your mother and brother.

EH: My mother used to sing and play the piano, and ran the cycle shop for years. You've seen the violins and the flute and oboe I made. Sadly my brother who was an optician, went to Singapore in the war and never returned. I went to Pilkingtons optical factory and bought lens blanks. and ground them myself. They gave you all the specifications and how to work out all the calculations. This was really the start of the interest in abstract algebra, and gave practical demonstrations for it.

After a few more years in the cycle shop, we saw an advertisement in the Chronicle for a part time Laboratory Technician at the Grammar School. I got it. Of course it only paid peanuts but later it became full time, and then I had twenty years at Crewe and Alsager Teacher Training College, enough to get me some pension.

JP: This became a real turning point in your life, I believe, and led to your marriage to Gladys.

EH: I couldn't afford to get married until I got my old age pension. I made a great mistake when I got married, but it would have been far greater if I hadn't!

There is the cause of my downfall, the spinning wheel there in the corner. A friend called the day after I retired and saw me turning a fancy candlestick on my lathe. He thought I was wasting my time with that, such turning on a spinning wheel would fetch a tidy price. Well, I thought about it, and decided that it was pointless going to all that trouble if I didn't know if it would work, so I set about finding out. I read Elsie Davenport's "Your Handspinning" from cover to cover, and made a working model from simple materials. having made it and taught myself how to spin a yarn, I later got encouraged to go to the Chester Guild meeting, and eventually got the job of carting Gladys home. She was busy with the Bradford Certificate and I helped her with her arithmetic. One thing led to another and I finally popped the question in 1980. We married on St Valentine's Day.

JP: Tell me how you became involved with the braids.

EH: Gladys went to a day workshop at the Chester Guild of Weavers, Spinners and Dyers. Louise Littlejohn was showing how to make braids on squares of card with notches cut in the sides. Gladys came home with a crumpled card and a tangled bunch of threads and said "I want something better to put my threads on", so I made a slotted board out of hardboard, followed by a simple stand to put it on. Shortly afterwards Rodrick Owen was invited to give a lecture to the Guild. We invited him to stay with us and I showed him the various slotted boards I had made up to that time. The seed was sown. We had joined the Liverpool Guild as we could go by train, and they had bought a copy of Noémi Speiser's "Manual of Braiding" for its library. This we borrowed, but as I turned the pages it washed off like water off a duck's back, until I got to Section 17 with a description of a Japanese machine for braiding, the Naiki Dai, and I thought I could make one of these. The years spent at Rolls Royce's tool room would help with all the gearing problems, so I set about making one. We later bought our own copy of Noémi's book, and encouraged by Rodrick, we wrote to her. She came to see the machine, and we have since been to Switzerland, and have many letters from her. The second edition of her book mentions me. Of course, I knew that hers must be a serious book because it has an 'errata'.

JP: This machine, the Naiki Dai, with the hooked paddles, was the one that you brought to Loughborough in 1989, and led on to others?

EH: Yes, I made two sizes of that. Later I made the Spider, so named because it has eight legs, from a breadboard and small stool. By lifting the perspex disc, the 'legs' lift eight bobbins at once, and swing out, ready to move forward (or backwards) as many places as you want. The moves are a bit like The Rake's Progress, two forward and three back, making a hollow braid. There are various sizes of plaiting stands, and boards for making looped braids. I made an Ashi Uchi Dai that has a foot beater for Jacqui Carey (for the Samurai Undressed exhibition).

My latest invention is rather like a giraffe and came about through a letter from Noémi. She said she needed some help to provide some extra hands to tension and hold the loops when making looped braids. I'm hoping to get it to Westhope, because it takes up nearly all of our front room. There is a double tensioning action that does the work of two pairs of hands - the threads fight one another in gay abandon. It took a few days to invent. The giraffe part, (rather like a guillotine and holds the braid) has pulley blocks, using mechanical advantage: every foot the braid grows, the block moves six inches. The piece in the middle, a bit like a mouse-trap, holds the braid firmly when manoeuvring or answering the telephone. All the blocks holding the loops are numbered so you can see exactly where you are. With two flicks of the wrist the new positions of the loops move up to the fell, needing only a small tug to complete the move.

JP: I know that you spend much time making diagrams and plotting with coloured pens to understand what is going on. Tell me, both how the perigraphs come in to being, and why you find them so useful.

EH: The term "perigraph" arose like this.

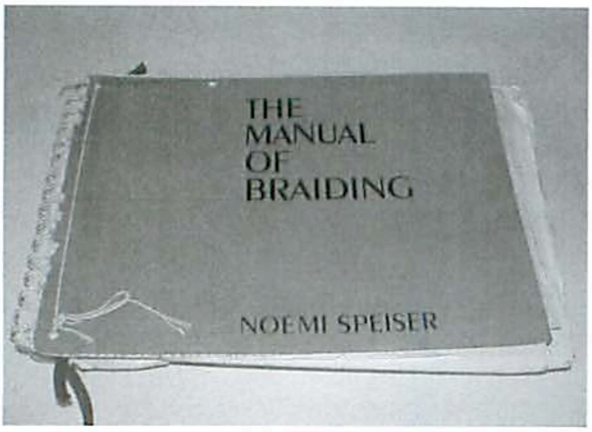
I showed Noémi some plans I had made from Catherine Martin's book, and she pointed out some mistake I had made. Well, when I was reading Noémi's Manual, I also read other sections to try to understand her trackplans, and, having an engineering background, I made some more geometric diagrams for a similar purpose, and so that the bobbins could be numbered and a table of numbers recorded etc, I inadvertently called them "trackplans". Noémi pointed out that they are not trackplans and that was her copyright, so I went to bed and next morning came up with this:

"I've decided to call my diagrams "Perigraphs" because ancient Greek philosophers used to walk around their students, and these are plans of the tracks the bobbins take around the maru dai, but "Peripatetic Diagram" from the name of these philosophers was too much of a mouthful, so I shortened it to "Perigraph". Noémi agreed this was very good.

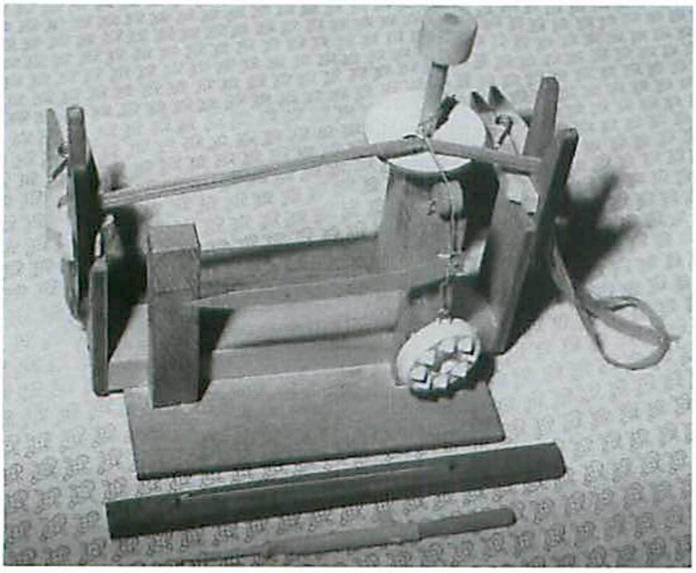
Now these two types of diagram have many things in common but Noémi's trackplans are easier for complex braids, say, made on the maru dai. However, persevering with perigraphs and the accompanying tables led on to "Dot Matrix" diagrams which give a useful insight into the time sequence of moves. They could be: perigraph = plan, and dot matric = elevation. Of course braid diagrams are much more effective in colour. The perigraph shows the tracks and the direction in which the bobbins move. We can use the fact that all the threads in a track, their colour and order, follow up or down the 'ridges' connected with that track. Further, using a little Group Theory, we can work out the number of cycles of moves for a repeat of a pattern. This is helpful when changing from one construction to another smoothly and regularly.

JP: I can see that the slotted boards are very useful for working out these perigraphs with their easier facility for numbering the positions of the bobbins during their journeys in making the braids. Is there a connection perhaps between the dot matric thoughts and the models of

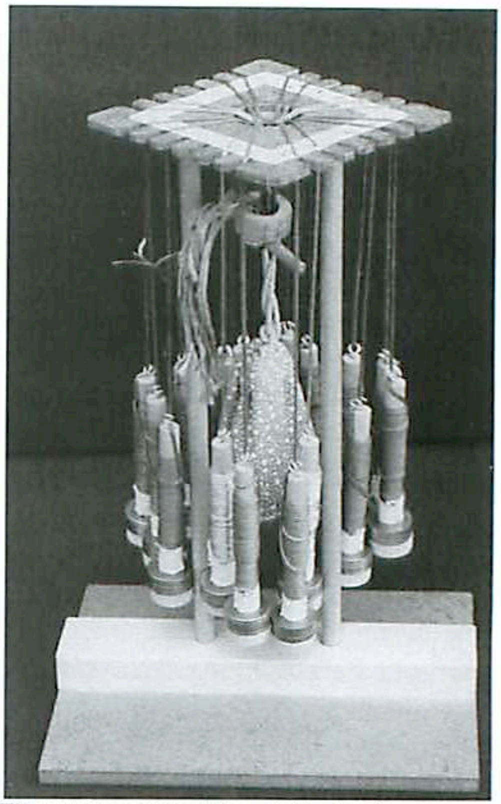
Ernie at the Inaugural Meeting of The Braid Society at Ayres St October 1993



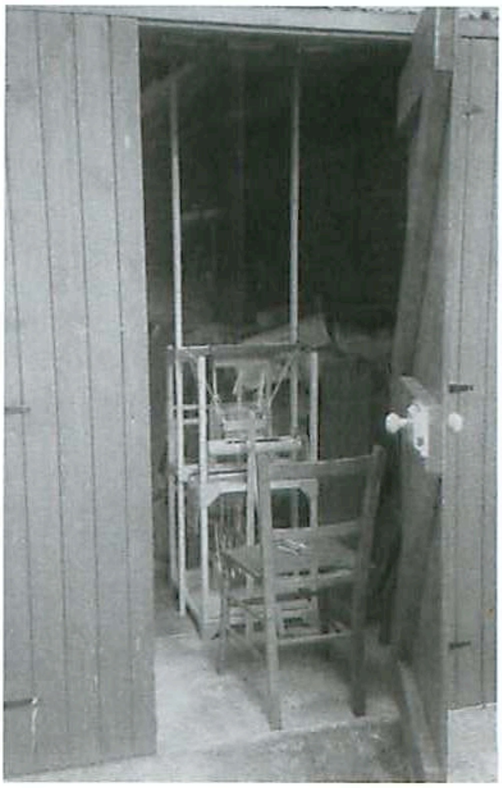
The Braidmaker's 'Bible', much used & stitched together



The Multi-thread Strangler



The square slotted board & stand



The Agra Loom

DNA spirals you made when working as a technician at the College? Another blessing in disguise?

EH: They did look like spiral braids! I did impress the anaesthetist when in hospital. I showed him these perigraphs and told him that it is related to the theory of finite cyclic groups. You have to remember LCM, the lowest common multiple, and HCF, the highest common factor. The product of two numbers A times B, is the same as the product of the LCM and HCF. It begins to fit into braiding, though it is not obvious straight away. The little book I use is "The Introduction to the Theory of Finite Groups" by Walter Leiderman.

JP: I shall have to work at it!

I am intrigued by this castle-like device on this stand that has just four simple bobbins. How did this come about?

EH: There was a lady at Loughborough who had problems with her sight, and I thought that if I made a distinguishing notch on the board, she could then know which way round the stand was facing, and could work out the numbers and positions for the bobbins. The castle came later, and sits on the central hole on the simple stand, and keeps the four threads separated and in definite positions. It became known as "Auntie-Uncle" when we visited a school and were showing a large class of children how to make simple braids, using clockwise and anti-clockwise moves - they heard me say "anti", and then they called the moves "Auntie-Uncle", and so it stayed! Four bobbin braids are hard to make well, and this does keep the bobbins at right angles as you work. Of course by varying the moves you can make flat oblique patterns or flat zig-zag pattern. I remember doing that at Loughborough to show how it works - you gave me some thread.

JP: I have heard tell of a device known as a "Multi-thread Strangler".

EH: Well, this is really a piece of apparatus for comparing the thickness of different qualities of yarn. Quite often you need another colour in a braid, but it is of a different count, and it is hard to gauge by eye how many ends you will need to balance the rest. By using the Multi-thread Strangler, you should be able to tell accurately just what is required.

JP: This is a truly amazing collection of equipment, with the dai maru dai, small taka dai, aya takedai, the naiki dais, spider, wooden giraffe, the various plaiting stands, besides all your copious notes and diagrams, and, as Noémi calls them, your 'mental meanderings.' Without being morbid, do you have plans for them?

EH: Well, Anne Dyer, from Westhope College, where we love to go for weekends, did ask Gladys whether I would be prepared to leave them to the College for a small museum, to save them from being disbanded. Of course I agreed. I'll not need to take them with me! I think it is to be called "Ernie's Enterprises".[3] I think it is a grand idea. This will give people the chance to see them properly, because we haven't got enough space here.

Ernie celebrated his 83rd birthday in August 1995. What a shining example he is of someone living life to the full, enjoying meeting all the challenges he sets himself, always eager to share his discoveries. Gladys and he have a wonderful partnership: Ernie is always wanting to discover new machines and apparatus for solving problems, and beavers away to understand the intricacies of braid constructions; Gladys is always looking for novel and ingenious ways of using braids, as her puppets show so well. She has incorporated wire into the construction of the braid that forms the framework for the puppets. her convolvulus flower shows the different properties obtained by altering the amount of counter balance used on the maru dai.

A most generous couple, so welcoming and so eager to show and share. I had two wonderful days with them to prepare this, and have enjoyed reliving the experience, by listening to all the tapes we made. Thank you.

From The Braid Society Newsletter Issue No 35 - January 2002

ERNIE HENSHALL 1912-2001

Ernie Henshall represented many things to many people, collecting friends along the way. A maker of violins and a harp, with a love of music, an interest in the wireless (cats whiskers and all) and jigsaw puzzles. his engineering skills and precision stayed with him through the years from his days at Rolls Royce, Crewe, and helped his transition to technician at Alsager College. There he solved students' problems with his ingenuity.

A great reader, he was always ready to understand the lives of ancient peoples and their beliefs and points of view.

On Ernie's retirement at the age of 65 he turned back to wood to give him an interest to fill his spare time, making a spinning wheel - this led him to meet Gladys (whom he subsequently married) at the Weavers, Spinners Guild and they remained members for many years.

A keen mathematical mind brought forth many ideas for making and adapting looms and equipment for the making of braids and he spent many hours charting his perigraphs of designs, ready to share his skills and knowledge to encourage others to have a go. - sometimes with 'harmonious disagreement"!

As Ernie's workshop got smaller in the growth of looms and equipment, Anne Dyer at Westhope College at Craven Arms, Shropshire, created a room for "Ernie's Enterprises" which can be visited today.

With the formation of the Braid Society, he was pleased to have the honorary position as Vice President and was always ready to travel (when able) to any group who showed interest.

We were privileged to share in the life of Ernie Henshall and benefited from his ideas and knowledge.

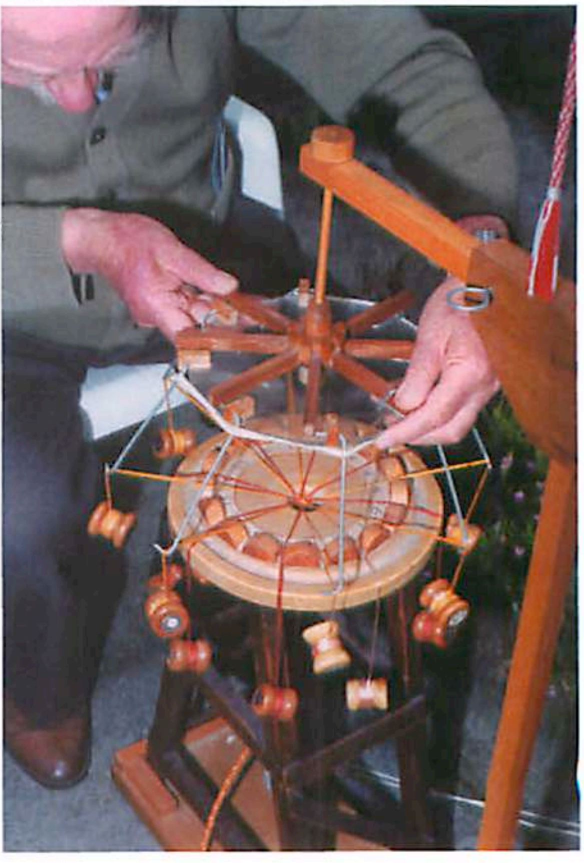
Now a piece of the jigsaw is missing forever.

Fond memories.

Jean and Granville Thornton.

Right: The "Spider", a braiding stool for making hollow braids, selecting & moving 8 bobbins at a time, invented & developed by Ernest Henshall, utilising an umbrella stand & a bread board together with additional refinements.

Below: Jean Thornton with Ernie & Gladys at Westhope 1995.



From Rodrick Owen

Memories of Ernie come back to me in several ways, as a student, an inventor, and as a Father figure. It was the Father figure that endeared me to him most of all. He would spend what seemed hours trying to get me to understand Perigraphs and when I didn't he would patiently go through it all again. Although Perigraphs would always elude me we did share common ground with our engineering experience. Ernie was a toolmaker, a profession that requires the skill of precision and inventiveness. So when Ernie came to braiding he brought those skills with him and applied them to modifying and inventing equipment. The results of his equipment journey can be seen in the museum at Westhope College. There is still one piece of equipment that we worked on together that remains incomplete and I think when this equipment finally appears it should be called an Ernie Dai.

From Noémi Speiser

Many years ago I received a telephone call from an unknown elderly voice and a name which I did not recognise. I heard that the husband of this voice was interested in my description of the Naiki-Dai in the "Manual".

Of course I was pleased, but when I heard about BUILDING ONE, I immediately warned: don't think of replicating such an extravagant and utterly involved machine. Much better to try e.g. the pretty simple Aya Take Dai.

The voice got a bit hesitant and I heard: "Oh, but you see, he has COMPLETED his replica already.....:

I was just amazed and lost for words.

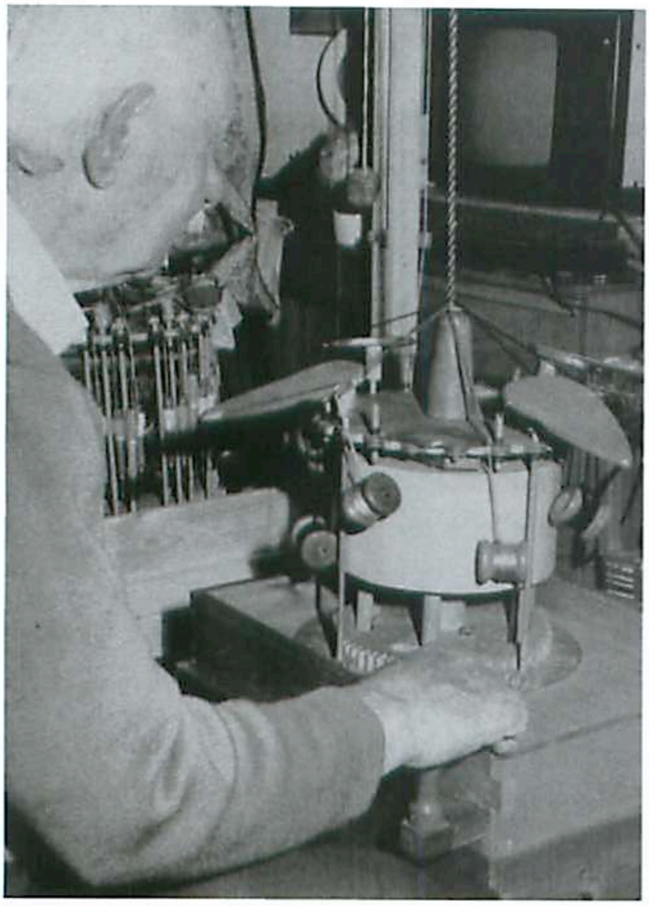
But very soon I was sent pictures of handsome old Ernie manipulating his Naiki Dai which functioned to perfection. And gradually I learned that there was literally NOTHING on earth beyond his brains and his practical skills.

This was the beginning of my acquaintance with Gladys and Ernie.

I had the lovely couple three times in my holiday flat. They boldly ventured the trip to Switzerland. I want to add: with the help of very devoted friends who brought them to Manchester Airport before dawn and picked them up late in the evening for coming back home.

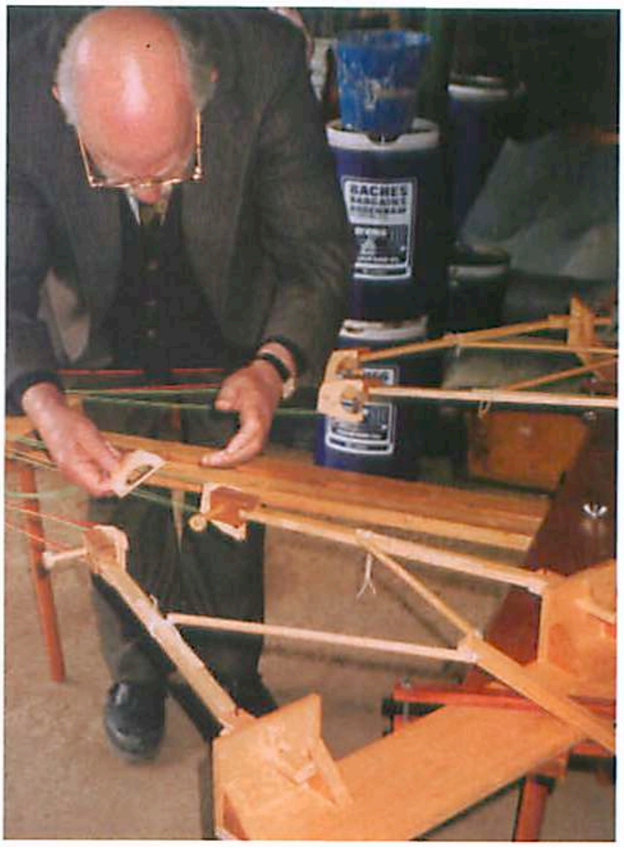
But here in Switzerland: "no dull minute", as Gladys used to say. Ernie talked and talked and explained indefatigably. And when enough talk was spent on mind-boggling perigraphs and flabbergasting gadgets, he started to recite ghastly old Ballads which he remembered from early boyhood. The flow of rhymes was often interrupted with laughter, but never stopped short before reaching the horrible end!

I have heaps of Ernie/Gladys stories in my memory, but this should stand for them all.

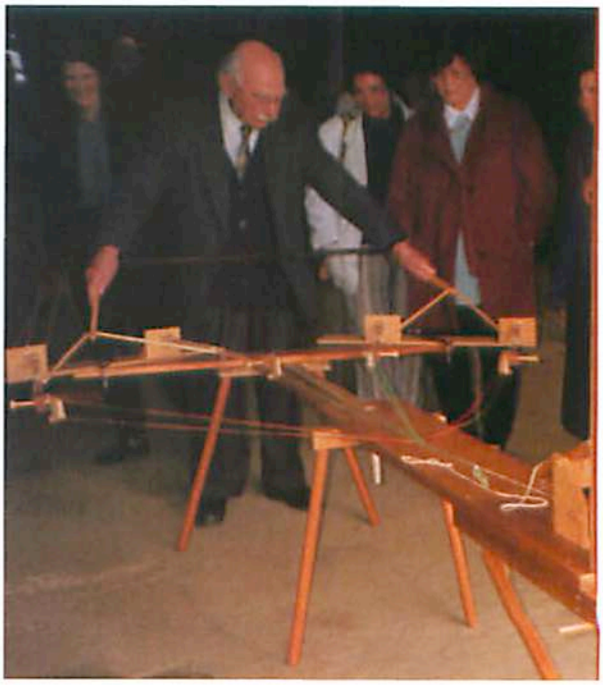


Working on the Naiki Dai

Exchanging the loops



The Giraffe, 4 'hands', 1 operator!



From Anne Dyer

I only knew Ernie towards the end of his life, when he was inventing his perigraphs and still making small machines. He was worried about what would happen to these machines when he died, so, after a few years and some visits to Westhope College, he asked if we would find space for them, and, being kind hearted, of course I said yes.

I knew he had a small house, so I couldn't see a problem. I reckoned a small lorry box in the back of the estate sheds would do it.

Then he started to say that the house was a bit full, and could I take some of the looms at once. I went to visit, in order to pick up the first load, and was horrified to find how much he could pack into a very small house and a garden shed. In the tiny sitting room, I counted 14 looms, and the only place to sit was the arms of the sofa. Everywhere was crammed with bundles of braids, like strings of onions, and with looms, complete or half-made. The top of the stove was free, and the lavatory, and, I hope, the beds.

We had to convert a small shed, part of a 3-tractor garage, rebuilt to highly insulated standards, and, over 3 visits, he filled it. Then, of course, there was space in his house to build more and bigger looms, ending with The Giraffe with Four Hands, 8' by 4', 6' tall, which wove a braid 1" wide.

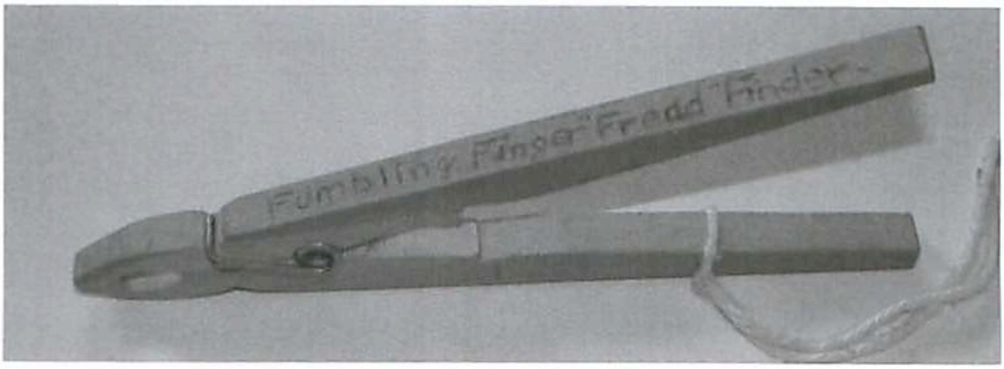
Every time we got the museum vaguely tidy, he would come over and take a loom to pieces to give him parts for the next one. It was easier than finding some properly seasoned wood.

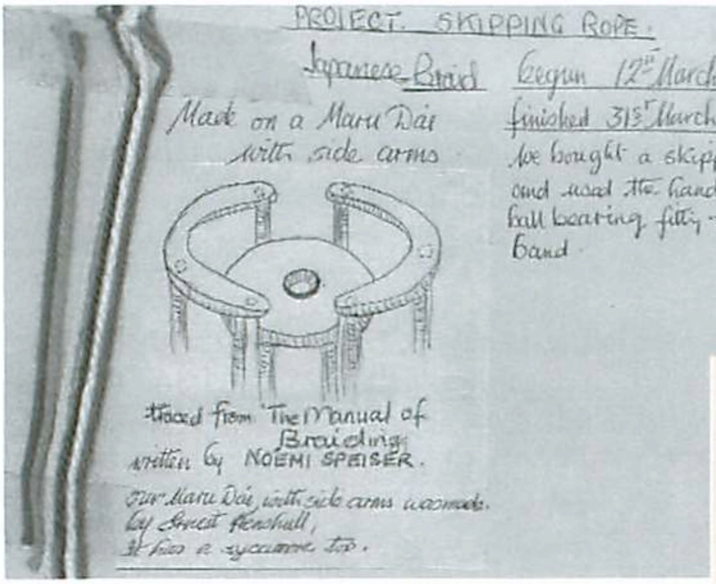
He used to visit a lot, sitting in the sun in front of a small loom, sleeping, while Glad did a course. He would wander round if the subject interested him. Anna Crutchley was teaching tassels, and had brought a French one with a twill-woven cover. I worked out how to do it with bobbins and a jam jar on the table; he went home and built a machine to do it.

He would follow a train of thought like an arthritic bloodhound, undeviating but slow. If you tried to hurry him through the bits of his explanations that you knew, he just went back to the beginning. He took plaiting into mathematician number theory, with his perigraphs, which had nothing to do with the actual plaiting method, but proved what category of movement they each had, how many linked spirals covered the moves. He wrote about all his findings to Noémi Speiser, in capital letters on graph paper, and totally ignored any criticisms she made.

His single-mindedness carried him past little things like meals and room temperature, so, when Glad was ill and complained about the chill, he, in a vest, shirt, pullover, waistcoat and jacket, said he didn't think it was cold. When she asked for a meal, he said yes, he was going to get it when he'd finished the current job or chart.

Like so many great men who have altered the world, he must have been impossible to live with. Glad deserved a medal.





PROJECT. SKIPPING ROPE.

Japanese Braid

Begun 12th March 1989

finished 31st March 1989.

Made on a Maru Dai
with side arms

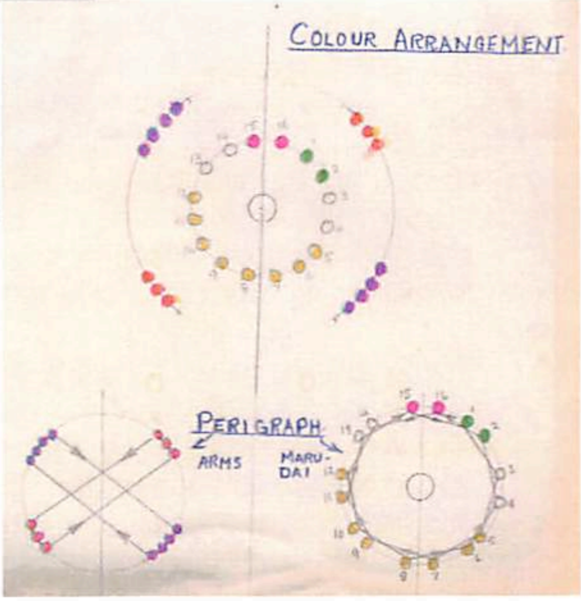
We bought a skipping rope and used the handles, ball bearing fitting, wire band.

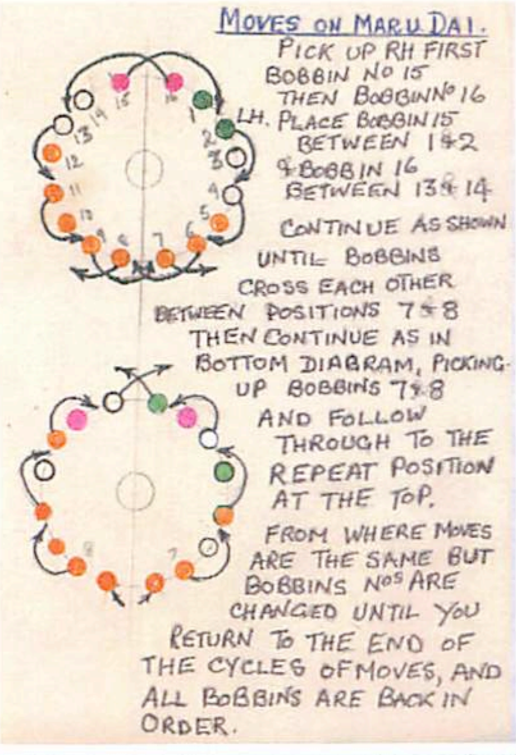
traced from 'The Manual of Braiding'
written by NOEMI SPEISER.

Our Maru Dai with side arms was made by Ernest Renshall,
It has a sycamore top.

The Famous Skipping Rope

I had never known that it was made on the Dai Maru Dai, with a core braid inside of different colours, until I found these notes in one of Gladys's scrapbooks.. JP



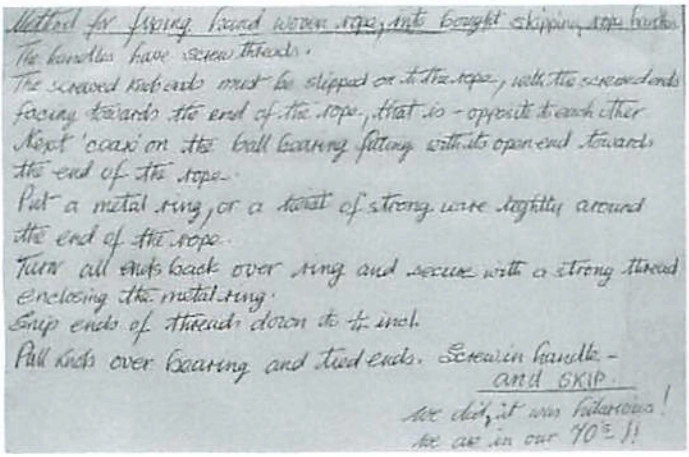


MOVES ON MARU DAI.

PICK UP RH FIRST BOBBIN NO 15 THEN BOBBIN No 16 LH. PLACE BOBBIN 15 BETWEEN 1 & 2 & BOBBIN 16 BETWEEN 13 & 14

CONTINUE AS SHOWN UNTIL BOBBINS CROSS EACH OTHER BETWEEN POSITIONS 7 & 8 THEN CONTINUE AS IN BOTTOM DIAGRAM, PICKING UP BOBBINS 7 & 8 AND FOLLOW THROUGH TO THE REPEAT POSITION AT THE TOP.

FROM WHERE MOVES ARE THE SAME BUT BOBBINS NOS ARE CHANGED UNTIL YOU RETURN TO THE END OF THE CYCLES OF MOVES, AND ALL BOBBINS ARE BACK IN ORDER.



Method for fixing hand woven rope, into bought skipping rope handles

The handles have screw threads.

The screwed knob ends must be slipped on to the rope, with the screwed ends facing towards the end of the rope, that is - opposite to each other

Next 'coax' on the ball bearing fitting with its open end towards the end of the rope.

Put a metal ring, or a twist of strong wire tightly around the end of the rope.

Turn all ends back over ring and secure with a strong thread enclosing the metal ring.

Snip ends of thread down to ¼ inch

Pull knobs over bearing and tied ends. Screw in handle - and SKIP.

We did, it was hilarious!
We are in our 70's!!

From Enid Leckie

Merseyside Guild of Weavers

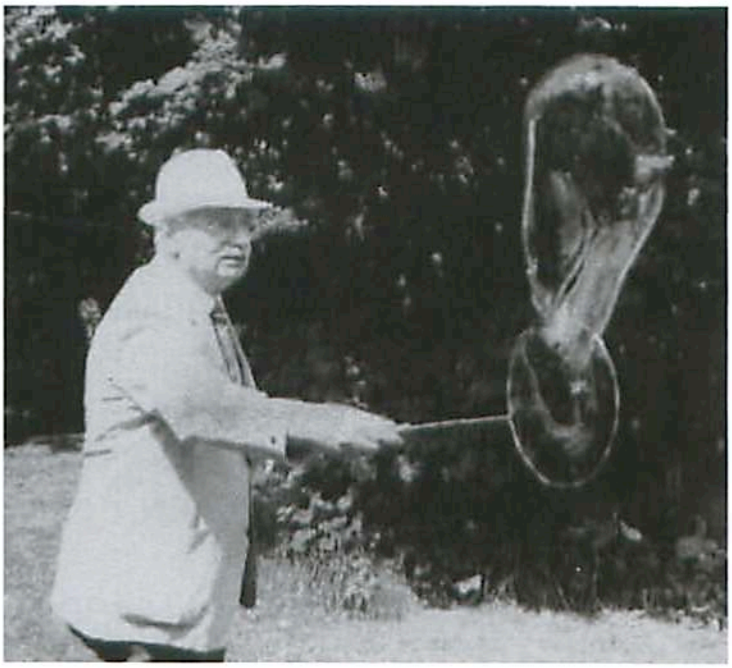
I cannot remember exactly when I met Ernie and his wife Gladys (and who can recall one without the other?) but they were the sort of people to whom you are instantly drawn and whom you very quickly feel that you have known for years.

Ernie was a very inventive man and interested in everything around him. Present him with half an idea and the next time you saw him, he would have expanded it, improved it, drawn up a plan and built it. One of his first spinning wheels was made from a bicycle wheel, a breadboard became part of a braiding machine and in the outhouse he had a bedstead loom.

In the days when they were able to travel, he and Gladys demonstrated, taught at many different venues and played an active part in Guild matters. I met them once at a Summer School in Loughborough, Ernie sitting in the middle of a Great semi-circular braid machine, explaining and showing the process involved to the crowd around him. And then there was the beautiful summer day in a friend's garden, lots of not-too-young people chasing giant bubbles! Ernie had brought an enormous bubble-blowing hoop which he had made and a big washing-up bowl of bubble liquid (his own recipe of course) to amuse us. Much laughter that day, but then we always had a good time when Ernie and Gladys were around.

Many of us have benefited from his generosity in sharing his knowledge with us and from the hospitality extended by them both, invitations to 'come to the house' or 'come to the caravan' being often repeated. Visits to them were treasured by me, I was always welcomed, made to feel that my visit was the highlight of their week. And what a wealth of things to look at, examine, play with in that house. Ernie always had a new braid or two to show along with the mind-boggling (to me, anyway!) graphs and charts which he had drawn up in order to weave them.

It was a great privilege to count them as friends and I have many happy memories of time spent in their company.



MITAKE GUMI 16 BOBBINS.

FIRST DRAW THE PERIGRAPH – IF YOU ARE WORKING FROM A USUAL PATTERN BOOK, YOU ONLY HAVE FOUR MOVES GIVEN WITH 16 BOBBINS SHOWN – SO GIVE THE BOBBINS A POSITION Nº ON THE FIRST DIAGRAM OR YOU CAN DRAW YOUR OWN DIAGRAM, DRAW A CIRCLE ON A PIECE of "SQUARED" PAPER & DIVIDE IT INTO 16 PARTS BY GEOMETRY, THEN YOU WILL NEED TO DRAW IN THE PRINCIPLE AXIS, BISECT THE ANGLE BETWEEN 16 & 1 AND DRAW IT THROUGH CENTRE, AS ON SHEET 1.

THEN DRAW IN THE TRACKS (STRAIGHT LINES) FROM THE POSITION THE BOBBIN IS NOW IN, TO THE POSITION IT IS GOING TO, THIS WILL MEAN IN PRACTICE LAYING IT ADJACENT TO THAT PLACE & FURTHER NOTING WHICH SIDE of THAT PLACE, IT IS EASY TO "WEAVE" A BRAID FROM THE USUAL DIAGRAM, BUT GIVES LITTLE INSIGHT INTO A REPEAT of PATTERN ETC.

HAVING DRAWN A PERIGRAPH MARK IN THE ARROWS SHOWING WHICH WAY THE MOVES ARE GOING, FROM THIS YOU CAN MAKE A TABLE of MOVES WHICH SHOWS FROM WHICH POSITION Nº IT IS PICKED UP & TO WHICH POSITION IT IS INTENDED TO GO, THIS TABLE ALSO TAKES INTO ACCOUNT THE MOVES ALONG THE APICES & RESET MOVES SEE DIAGRAMS.

FROM THIS TABLE A DIAGRAM CAN BE DRAWN of THE 1ST CYCLE of MOVES, GET THIS CORRECT, THEN THE REST CAN BE DONE BY DOTS AGAINST THE R.H. SIDE of THE NEXT Nºs YOU ARE GOING TO MOVE – I FIND IT EASIER TO DO THE TWO DOTS FOR EACH MOVE AS I GO ALONG – YOU CAN WORK OUT THE Nº of CYCLES YOU WILL REQUIRE FOR A REPEAT of PATTERN, COUNT THE

CONTD

E HENSHALL. 1999.

NUMBER of BOBBINS IN EACH TRACK & FIND THEIR L.C.M.— SEE SHEETS 1&2. THIS IS EQUAL TO THE N° of CYCLES.

WHEN DOING THE 1ST MOVE PUT A DOT AGAINST EACH of THE Nos INDICATED IN THE MOVES CHART BY AN X WRITE THESE DOWN IN THE NEXT COLUMN IN THE PLACE THEY ARE GOING TO — YOU STILL HAVE ALL THE REST of THE Nos TO DEAL WITH — 1& 16 HAVE MOVED TO POSITIONS 6&11 YOU HAVE A DOT BY 1&16 YOU DO NOT USE THESE AGAIN BUT MOVE N°2 INTO POSITION(1) THEN 3 INTO POSTION(2) AS SHOWN IN Nos CHART& SO ON, WHEN YOU COME TO 16 IN LINE(6) YOU MOVE 7 ACROSS UNDER 16 & SO ON TILL YOU COME TO 1 IN LINE(11) YOU THEN MOVE 11 UNDER THE 1 & SO ON TILL N° 15 FILLS LINE SIXTEEN. NOW DO THE SAME PROCEDURE FOR MOVE 2 N°9 GOES TO LINE 3 & N°8 GOES TO LINE 14 & SO ON, WHEN YOU GET TO MOVE N°4 THE 3 YOU WANT TO PICK UP HAS MOVED TO LINE 2 SO THE X IS IN LINE 2 & THE o END of THE MOVE IS IN LINE N°4 WHICH IS WHERE THE PERIGRAPH SAYS IT SHOULD GO — THATS IF PERIGRAPHS CAN TALK— THIS IS WHY ITS IMPORTANT TO GET THE 1ST CYCLE CORRECT.

WHEN YOU GET TO CYCLE 4 THE BOBBINS ARE IN REVERSE ORDER, SO IF YOU COMPARE THEM WITH THE CHART FOR THE REST of THE CYCLES (UNDERNEATH) THE Nos ARE WRITTEN IN UPSIDE DOWN ORDER — SAVES A LOT of WORK— THE DOTS ARE IN THE SAME ORDER.

NOW DRAW A SMALL PERIGRAPH WITH "SPOKES" RADIATING FROM THE POSITION Nos. EVERY 5 MMS. EXTRA IN RADIUS DRAW A SERIES of CIRCLES, START WITH POSITION 1 & COPY THE CYCLE Nos ON TO THE "SPOKES" FOR EIGHT CYCLES TILL THE NUMBERS REPEAT, DO THIS FOR ALL POSITION Nos, IT SHOWS A N° ORDER THE SAME FOR EACH "SPOKE" of A GIVEN TRACK, BUT STARTING WITH A DIFFERENT N°.

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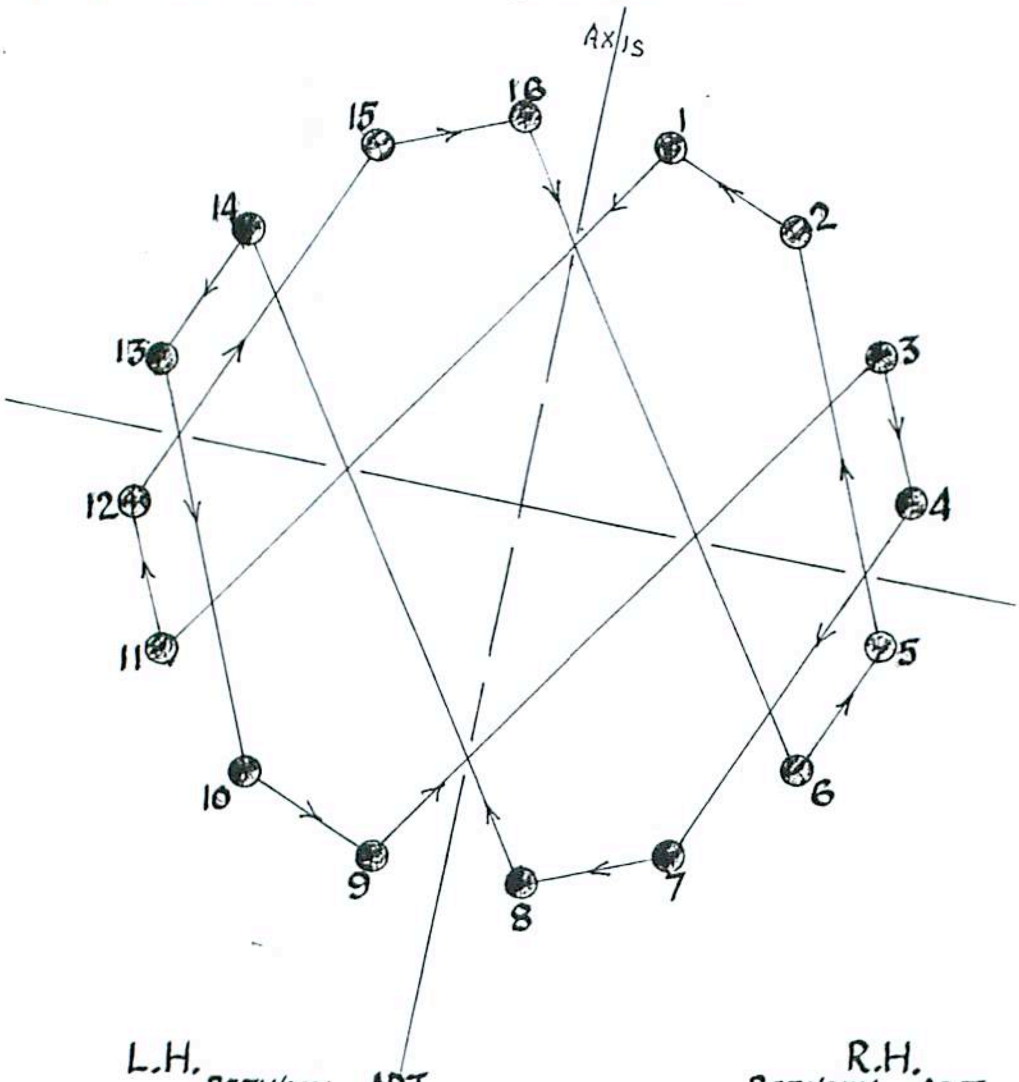
MITAKE GUMI 16 BOBBINS



	L.H.	BETWEEN	ADJ.	R.H.	BETWEEN	ADJ.
1	16 ► 6	6 & 7	6	1 ► 11	10 & 11	11
2	9 ► 3	2 & 3	3	8 ► 14	14 & 15	14
3	11 ► 12			6 ► 5		
4	14 ► 13			3 ► 4		
5	13 ► 10	11 & 10	10	4 ► 7	6 & 7	7
6	12 ► 15	14 & 15	15	5 ► 2	2 & 3	2
7	15 ► 16			2 ► 1		
8	9 ► 10			7 ► 8		

THERE ARE EIGHT BOBBINS IN EACH TRACK – L.C.M = $\begin{array}{r}8\,\underline{)\,8\;8}\\ 1\;1\end{array} = 8$

∴ 8 CYCLE IN ONE REPEAT of PATTERN.

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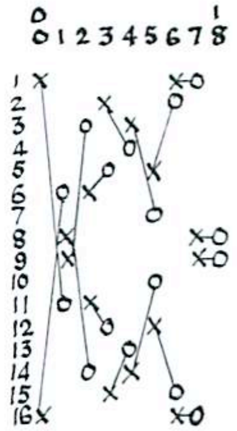
2

MITAKE GUMI

16 BOBBINS



0 1 2 3 4
0 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8

1·2 2 2 2 2 2·2 2·5 5 5 5 5 5·5 5·6 6 6 6 6 6·6 6·16 16 16 16 16 16·16 16
2 3 3 3·9 9 5 5 5 9 9 9·10 10 6 6 6 10 10 10·13 13 16 16 16 13 13 13·14 14 15 15 15
3 4 9 9 4·3 9 9 9 3 10 10 3·9 10 10 10 9 13 13 9·10 13 13 13 10 14 14 10·13 14 14 14
4 5 4 4 3 6 3 3 3 6 3 3 9 16 9 9 9 16 9 9 10 15 10 10 10 15 10 10 13 12 13 13 13
5 6 5 6 6 5·6 6 6 16 6 16 16 6·16 16 16 15 16 15 15 16·15 15 15 12 15 12 12 15·12 12 12
6 16 6·5 5 16 16 16 16 15 16·6 6 15 15 15 15 12 15·16 16 12 12 12 12 11 12·15 15 11 11 11 11
7 7 16 16 6 4 4 4 4 4 15 15 15 3 3 3 3 3 12 12 15 9 9 9 9 9 11 11 11 10 10 10 10
8 8·7 7 7 7 7 7·7 7·4 4 4 4 4 4·4 4·3 3 3 3 3 3·3 3·9 9 9 9 9 9·9
9 9·10 10 10 10 10 10·10 10·13 13 13 13 13 13·13 13·14 14 14 14 14 14·14 14·8 8 8 8 8 8·8
10 10 1 1 1 13 13 13 13 13 2 2 2 14 14 14 14 14 5 5 5 8 8 8 8 8 6 6 6 7 7 7 7
11 1 11·12 12 1 1 1 1 8 1·11 11 2 2 2 2 5 2·1 1 5 5 5 5 6 5·2 2 6 6 6 6
12 11 12 11 11 12·11 11 11 1 11 1 1 11·1 1 1 2 1 2 2 1·2 2 2 5 2 5 5 2·5 5 5
13 12 13 13 14 11 14 14 14 11 14 14 8 1 8 8 8 1 8 8 7 2 7 7 7 2 7 7 4 5 4 4 4
14 13 8 8 13·14 8 8 8 14 7 7 14·8 7 7 7 8 4 4 8·7 4 4 4 7 3 3 7·4 3 3 3
15 14 14 14·8 8 12 12 12 8 8 8·7 7 11 11 11 7 7 7·4 4 1 1 1 4 4 4·3 3 2 2 2
16·15 15 15 15 15 15·15 15·12 12 12 12 12 12·12 12·11 11 11 11 11 11·11 11·1 1 1 1 1 1·1 1

4 5 6 7 8
8 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8

1 16·15 15 15 15 15 15·15 15·12 12 12 12 12 12·12 12·11 11 11 11 11 11·11 11·1 1 1 1 1 1 1 1
2 15 14 14 14·8 8 8 12 12 8 8 8·7 7 11 11 11 7 7 7·4 4 1 1 1 4 4 4·3 3 2·2 2
3 14 13 8 8 13·14 8 8 8 14 7 7 14·8 7 7 7 8 4 4 8·7 4 4 4 7 3 3 7·4 3 3 3
4 13 12 13 13 14 11 14·14 14 11 14 14 8 1 8 8 8 1 8 8 7 2 7 7 7 2 7 7 4 5 4 4 4
5 12 11 12 11 11 12·11 11 11 1 11 1 1 11·1 1 1 2 1 2 2 1·2 2 2 5 2 5 5 2·5 5 5
6 11 1 11·12 12 1 1 1 1 2 1·11 11 2 2 2 2 5 2·1 1 5 5 5 5 6 5·2 2 6 6 6 6
7 10 10 1 1 1 13 13 13 13 13 2 2 2 14 14 14 14 14 5 5 5 8 8 8 8 8 6 6 6 7 7 7 7
8 9 9·10 10 10 10 10 10·10 10·13 13 13 13 13 13·13 13·14 14 14 14 14 14·14 14·8 8 8 8 8 8·8
9 8 8·7 7 7 7 7 7·7 7·4 4 4 4 4 4·4 4·3 3 3 3 3 3·3 3·9 9 9 9 9 9·9
10 7 7 16 16 16 4 4 4 4 4 15 15 15 3 3 3 3 3 12 12 12 9 9 9 9 9 11 11 11 10 10 10 10
11 6 16 6·5 5 16 16 16 16 15 16 6 6 15 15 15 15 12 15·16 16 12 12 12 12 11 12·15 15 11 11 11 11
12 5 6 5 6 6 5·6 6 6 16 6 16 16 6·16 16 16 15 16 15 15 16·15 15 15 12 15 12 12 15·12 12 12
13 4 5 4 4 3 6 3 3 3 6 3 3 9 16 9 9 9 16 9 9 10 15 10 10 10 15 10 10 13 12 13 13 13
14 3 4 9 9 4·3 9 9 9 3 10 10 3·9 10 10 10 9 13 13 9·10 13 13 13 10 14 14 10·13 14 14 14
15 2 3 3 3·9 9 5 5 5 9 9 9·10 10 6 6 6 10 10 10·13 13 16 16 16 13 13 13·14 14 15 15 15
16 1·2 2 2 2 2 2·2 2 5 5 5 5 5 5·5 5·6 6 6 6 6 6·6 6 16 16 16 16 16 16 16 16

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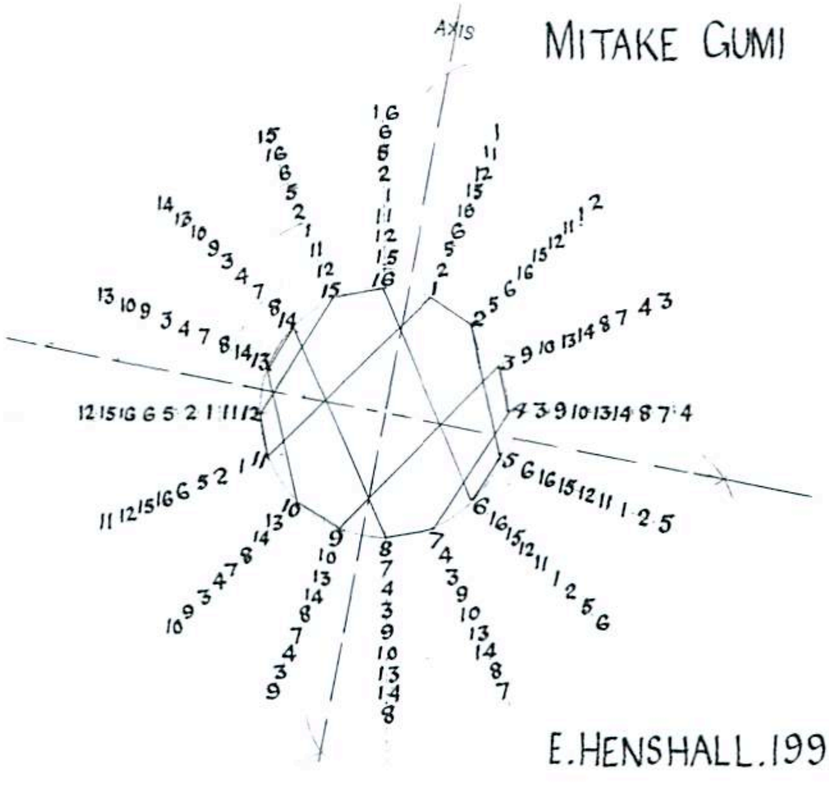
MITAKE GUMI



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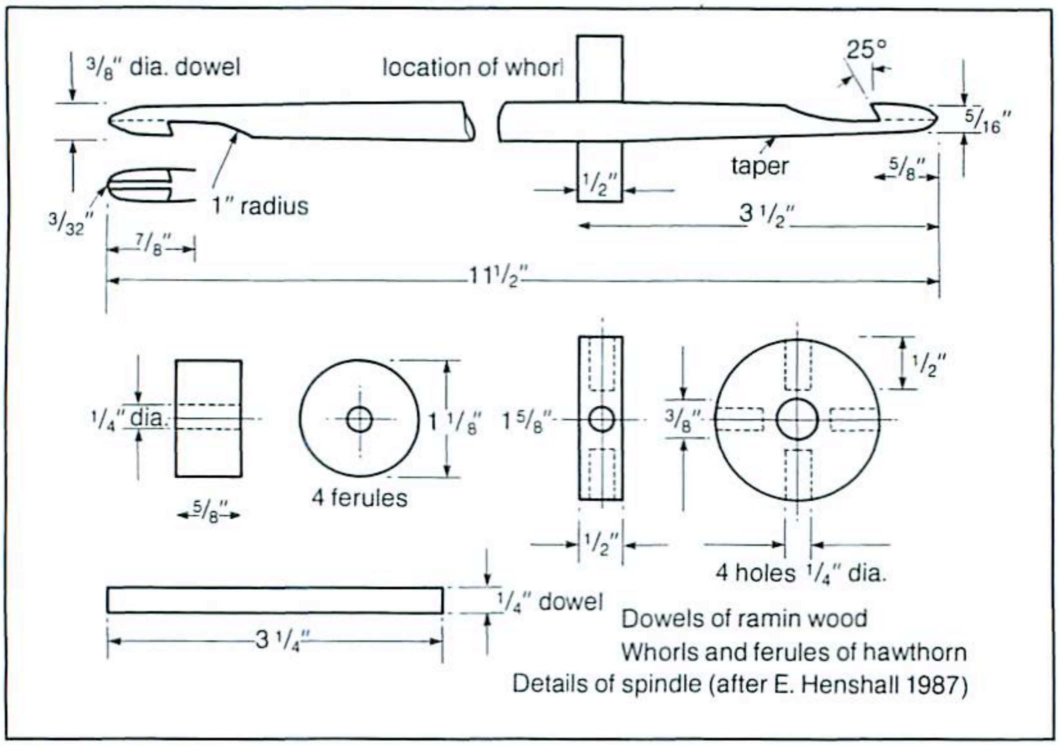
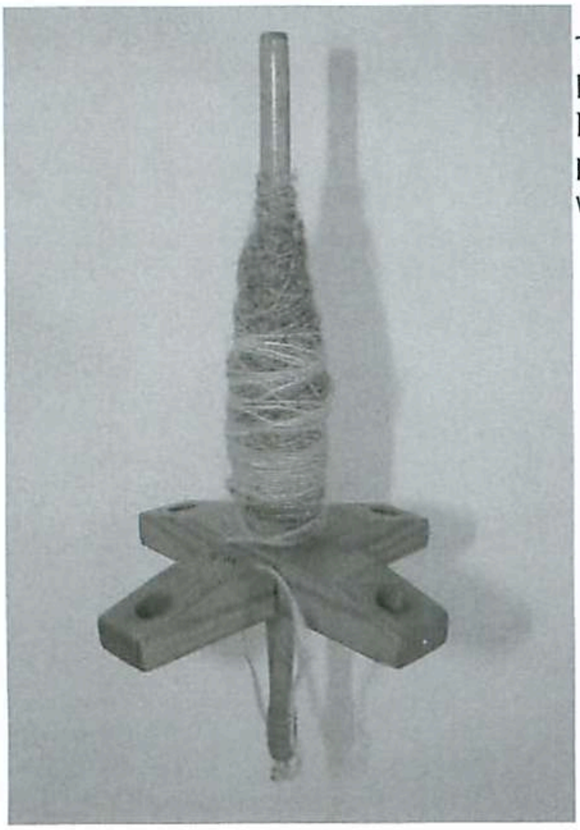
Ernie's Drop Spindle

appeared in The Journal of Weavers, Spinners & Dyers 146 April 1988

Ernie Henshall's spindle

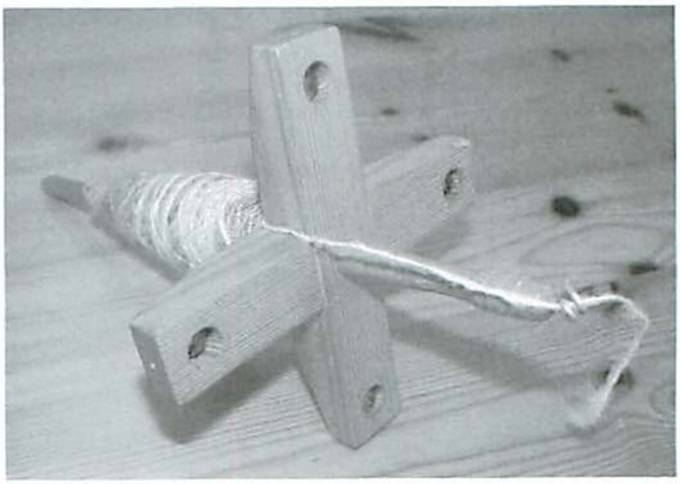


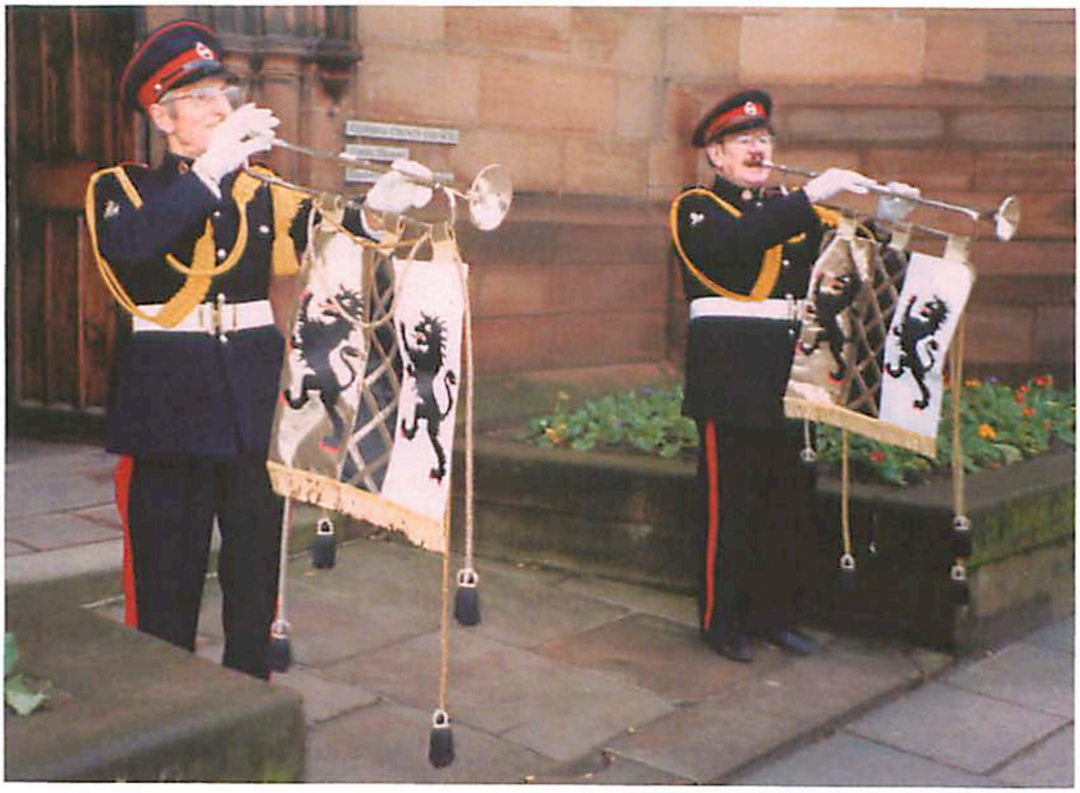
Dowels of ramin wood
Whorls and ferules of hawthorn
Details of spindle (after E. Henshall 1987)



This beautiful balanced spindle is a joy to use. It has been designed and made by Ernie Henshall of Merseyside & West Lancs Guild. He has supplied the plan and dimensions for readers of the Journal who would like to make one for themselves.

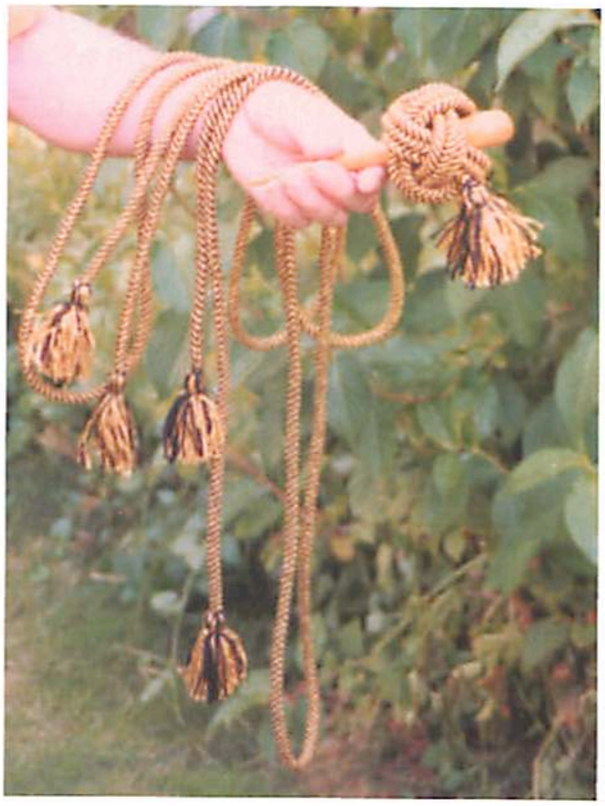
JP heard, at Summer School 2003, it is still being praised. Thanks to the Journal for permission to reproduce this here.





The Trumpeters' Banners made for the Inauguration of the Sheriff of Cumbria at Carlisle Castle, 1990

Gladys and Ernie made the braids in black and gold, having submitted samples before hand.



The Jigsaw Passion

Ernie loved jigsaws, and, being Ernie, had developed his own system for setting about the task ahead. He sorted all the pieces with extreme care onto a series of trays attached to an upright stand in such a way that these could swing forward and back when required. He referred to the two types of shapes of piece as Orthodox, and Heteradox. I think edge pieces were put on their own tray. This whole operation took place in the only space that was left in the outer back room where his big loom had once been assembled. There was only room for Ernie, just inside the door! Once completed, the jigsaws were framed.

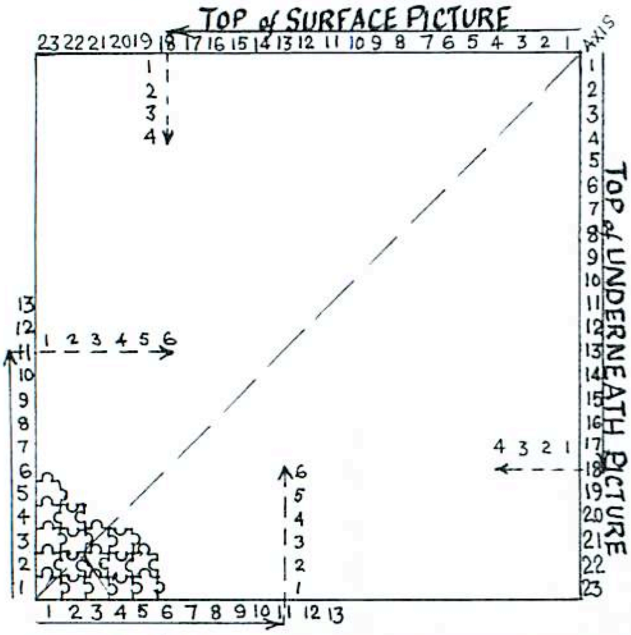
One year I thought I had found a real hard puzzle, a double sided jigsaw, a perfect birthday present. This certainly intrigued him, and he set about finding a system. Gladys told me how puzzled she was when she found the tops of two new packets of PG Tips tea bags missing, cut off by Himself, to help prove his theory. Once the mind had solved it, he set about to establish it worked - of course - it did! So I had to get him a second one to test it out again.

I was then sent a copy of the method shown here. This was in 1999, still written with the black fountain pen in that bold handwriting.

Jennie 'Wren'

WORLDS MOST DIFFICULT JIGSAW PUZZLE

23×23=529 PIECES



THERE ARE TWO PIECES WITH ALMOST IDENTICAL PICTURES ON THEM, START WITH OUTSIDE EDGE & CAREFULLY PUT TOGETHER THE PIECES WHICH GIVE THE BEST JOIN- YOU WILL GET TWO SIMILAR BITS OR LENGTHS of THE SIDES WHEN YOU HAVE FITTED ONE LOT COUNT THEIR CO-ORDINATES FROM EITHER THE BOTTOM LEFT CORNER OR TOP RIGHT, THEN TURN THE OTHER SET UPSIDE DOWN & PUT THEM IN THE BASE. (SAME COUNT) DO THE SAME WITH TOP RIGHT CORNER, WHEN YOU HAVE COMPLETED THE EDGES YOU CAN MAKE UP TWO AREAS of THE PUZZLE & WHEN YOU MAKE CONNECTION WITH THE EDGES, AGAIN COUNT THE CO-ORDINATES BUT NOW ALSO COUNT THE DISTANCE "IN"–AS SHOWN — TURN THE SECOND LOT UPSIDE DOWN & PLACE IN POSTION SHOWN AT THE BOTTOM. (SAME COUNT)

E.HENSHALL.1999.

From Jennie Parry

(nicknamed Jennie Wren)

It seems strange now not to take a small diversion from the M6 when travelling off on holiday up north, or going to or from the Antique Textile Fair etc., to visit the Henshalls. Even my dogs knew the routine, perhaps especially as Ernie always gave them a generous portion of cooked meat, whilst we were treated to special cream slices and tea. We were plunged straight into the latest creations at break neck speed, it was delightful. Gladys made us all feel part of the family. She always rang me later that evening following a visit, to make sure I had got home safely. I remember on one occasion there was a knock at the the door, and the Jehovah's Witnesses were welcomed in as usual, and Ernie talked to them for some considerable time in the front room, discussing important moral and religious matters. Another time, the children from next door appeared, to look in Gladys's 'fairy basket' for little treats.
In amongst the photo albums Gladys had a photo of the garden "where many ideas begin". That also happened as he twiddled his thumbs round and round, 'aunty and uncle'. Ernie was always pleased to share his special apples, Blenheim Orange I think, but they had to be kept until October in order to be ready for eating - we had strict orders.

She wrote many letters in the pursuit of information as well as friendship, and always supported new publications by ordering them immediately. Whenever a large A4 envelope fell onto my doormat, the address written in Ernie's bold hand, I knew I was in receipt of the latest thinking. He so enjoyed the colour photocopies when they became available as they saved him many hours with the felt pens patiently filling in all the Perigraphs.

I remember him being presented with a specially inscribed 240gm bobbin at the 1995 Braid Society AGM to mark the start of Ernie's Enterprises earlier that day when he had handed over so much documentation and equipment. He was heard to mutter that one heavy bobbin wasn't much good for braiding and immediately ordered a further three so he could get going!

When he had completed the Agra Braid loom following researches at the Bankfield Museum, and made a fine reed himself using thin slivers of bamboo, he set about proving it would also work as a floor loom. However the pedals were very close together, so he invented a long pair of wooden dividers in order to press combinations of pedals for the pattern.
There is a saying "Only when the complex is exhausted is the simple revealed". In my heart, I think it worked the other way round with dear Ernie. His inventions became very complicated. Bless him.

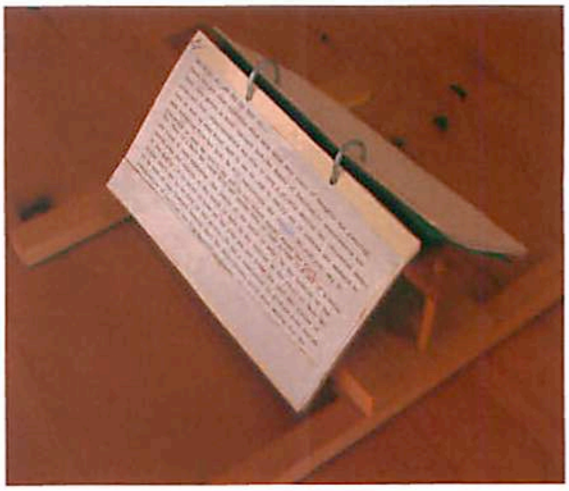
After Gladys died in June 2000, Ernie stoically soldiered on for a few months, with the constant continued support of David and Jean Henshall, Jean and Granville Thornton, and neighbours and good friends, until he had a major stroke. When he went to St Catherine's Nursing Home in Nantwich, his large plaiting stand, maru dai and photographs went too. He did his best to teach the staff and visitors about the 'intracies' of braiding. His patience saw him through this difficult time, but he sorely missed the pleasure of being to eat proper food.
Gladys was born on 5 November 1915. It being Bonfire Night, her family lit a rocket to celebrate her birth. This custom happened every year of her life until she died. Dear Ernie died on 4 November 2001, I like to think to join her in time for her anniversary.

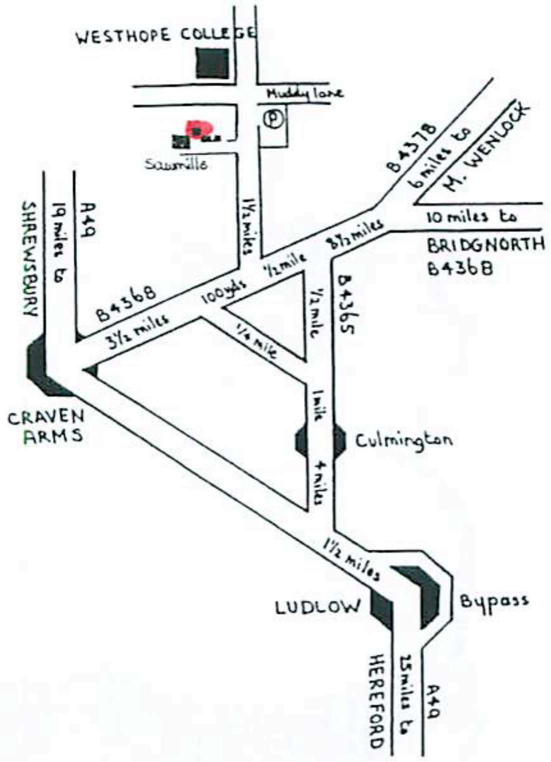
I have read the talk Gladys gave to many guilds and groups, typed out on card on the special 'lecture' stand designed by Ernie. Over the years she had obviously added her own extra reminders, and underlined key words. The Conclusion is a delight, and gives insight into their partnership.
I quote:

CONCLUSION

"This is our hobby. I say our because it involves both of us, and you should see our kitchen, when these projects are on the go....sawdust all over the place, things have to be held while holes are made and centres checked before and after the deed is done - when oil/stains are in use, dark marks appear on doors and washbasins, towels etc. Soap actually has to be washed at times at our house. The small bench and saw are sometimes in house position because its too cold in the shed or outside in the colder weather, and anyway the workshop.garage and sheds are full. The car has lived outside for years, I am often left wondering how long it will be before we have to make a place in the Showering outside where we can live, the bed is half-full of textbooks, we already walk sideways into the hall. There are some members who can vouch for this.

One of our weaver friends was once heard to say "If only Gladys had specialised in one Craft, it would have been specialised indeed", but, my goodness... I wouldn't have had half the fun......."

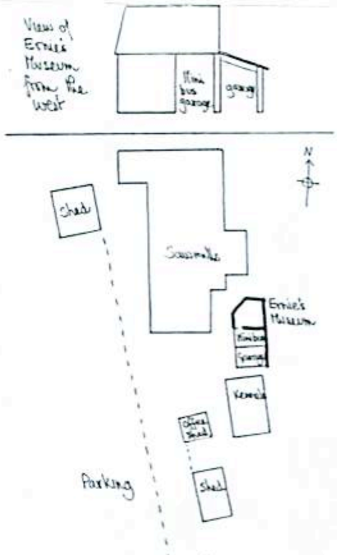




The day before you might come, please phone the College, 01584 861 293, and we will check the Museum is unlocked for you.

ERNIE'S ENTERPRISE, the tiny museum of the braid-making machines made, developed or invented by Ernie Henshall.

Follow the signs for Westhope College till you reach the top of a fairly long hill that passes the Village Hall. Before the road drops down to the College, turn left up a drive, and park anywhere you can. The Museum is at the top of the drive, on the right, level with a sign "Westhope Sawmills". The door hides beside the Minibus.



Ernie worked with his hands all his life, both in his job and as a hobby. He made telescopes, radios, musical instruments and jigsaws. He met his future wife and his first braids at the Merseyside Guild of Spinners Weavers and Dyers, two things that altered his life.

He preferred to design a machine, rather than use his hands to manipulate the threads, even if this took much longer and filled his tiny house till there was no space for living.

One of his machines, The Giraffe with 4 Hands, was 2 metres tall, 3 metres long, over 1 metre wide, and wove a loop braid about 3 cms wide. We had to dismantle and store it upstairs so there was room for other things.

He started with slotted boards, his adaptation of the Marudai, which he preferred because he could more easily record the moves for his very private notation that he called perigraphs. These show tracks taken by each thread during one cycle of moves, rather like bell ringing patterns. They don't tell you how to weave the braid, but are very satisfying to a mathematician.

He moved on to the other Japanese looms, and then to trying to reconstruct other machines from archeological or ethnical records.

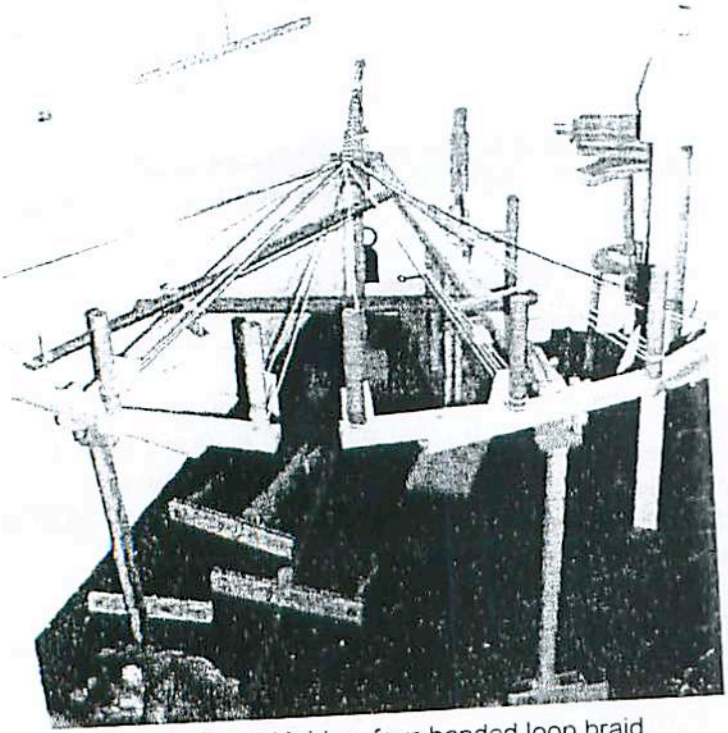
Along the way, he invented a series of machines never seen before, using any bits of wood he could find, from scrap to his wife's bread board.

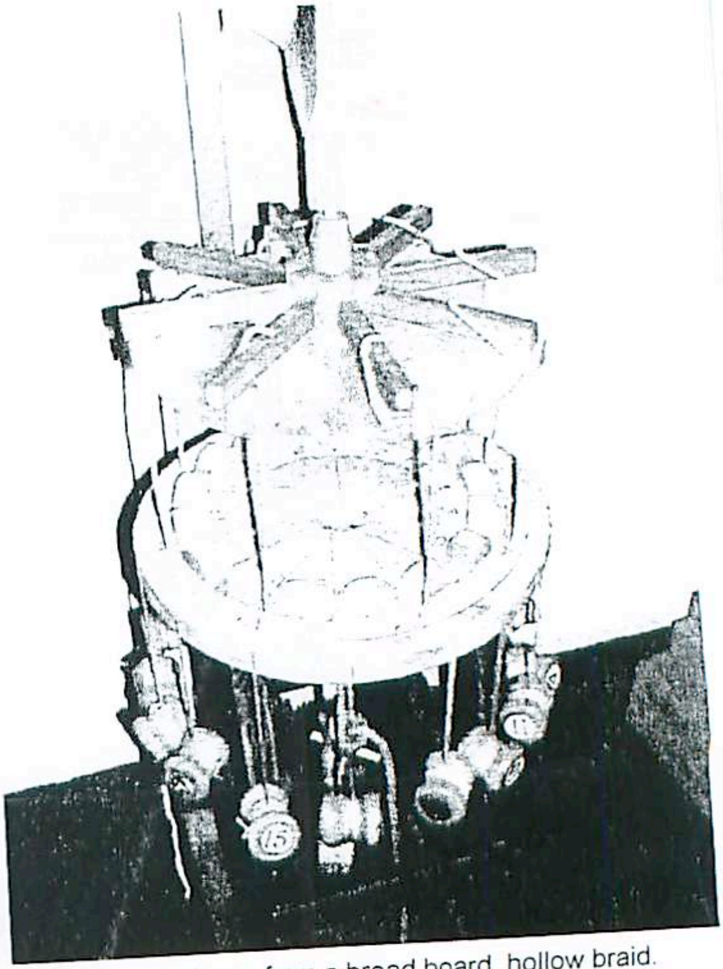
He had much correspondence with Nöemi Speiser, the world expert on the theory of braids, and totally ignored all her forbiddings about his invented names and methods. Yet he, in his turn, forbad things he hadn't thought of, (till he had tried them), like twills on the plaiting stand.

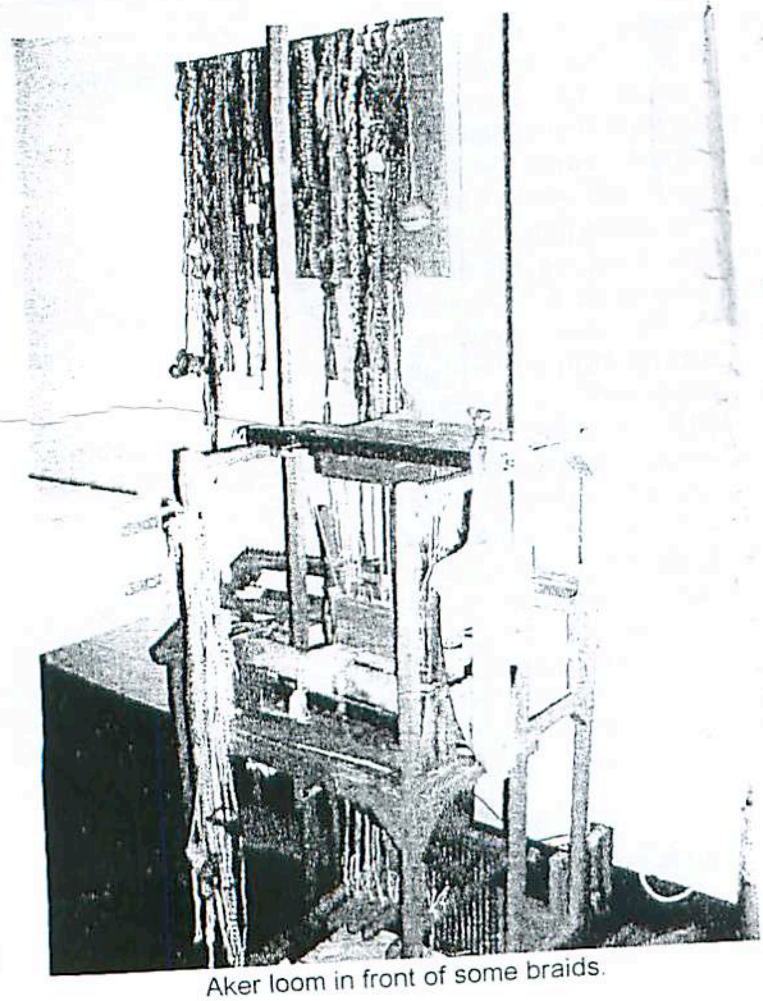
In the filing cabinet, you will find some of his paperwork, some well identified but some only understood by Ernie and God. Any comments or guesses on the meaning of anything gratefully received by Anne Dyer, Westhope College, Craven Arms, SY7 9JL, curator.

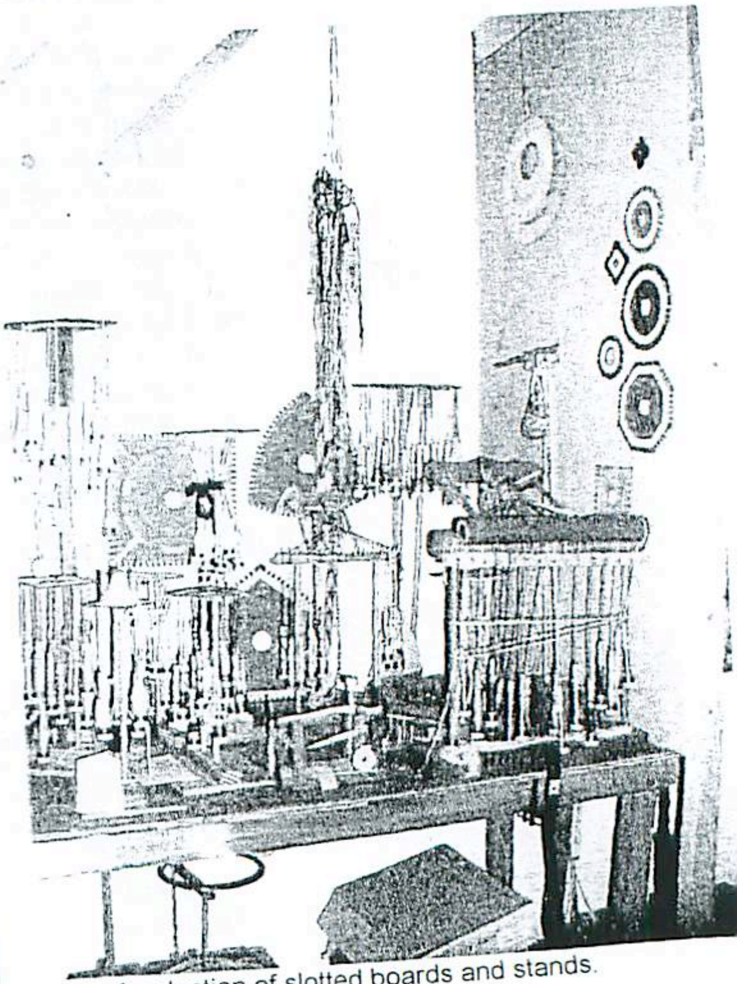
On the edge of the balcony are some of his wife's dolls. Gladys was a excellent all-round craftswoman, also making pottery, embroidery and tapestry weaving.

Please check the lights are out, and the door firmly shut when you leave. Thank you.


The Reclining Maiden, four-handed loop braid.


Paddle loom, from a bread board, hollow braid.


Aker loom in front of some braids.


A selection of slotted boards and stands.

Ernie Henshall with his invention, the "**Spider**", inspired by a grooved bread board; plaits a hollow tabby or twill braid, by lifting and dropping top bars. 1994.

Photo by Jenny Parry

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